Exhibit 1

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VIA ELECTRONIC MAIL

Casey Boome
Molly K. Priedeman
Assistant United States Attorneys
United States Attorney's Office for the Northern District of California
450 Golden Gate Avenue, Box 36055
San Francisco, California 94102-3495

Re: *USA v. Linwei Ding*, U.S. District Court – Northern District of California
       Case No. 3:24-CR-00141-VC

Dear Mr. Boome and Ms. Priedeman:

Pursuant to Federal Rules of Criminal Procedure 16(b)(1)(C) and the Court's August 6, 2025, Order Granting Joint Stipulation to Modify Deadlines and Set Pretrial Schedule (ECF 114), Defendant Linwei Ding ("Mr. Ding"), by and through his attorneys of record, herein provides notice of his expert disclosure of Isaac Pflaum. This disclosure provides summaries of the expected testimony that Mr. Ding may use under Federal Rules of Evidence 702, 703, or 705 during his case-in-chief at trial.

Mr. Ding expressly reserves the right to supplement, amend, or otherwise modify this expert disclosure, including because discovery is not yet closed. This reservation includes, but is not limited to, the right to address, rebut, and respond to any opinions or analysis offered by the prosecution's experts or witnesses, whether disclosed in reports, testimony, or other submissions. Mr. Ding further reserves the right to provide additional opinions or materials should new information become available or known to the expert through discovery, disclosures, or subsequent proceedings including trial. Mr. Ding also reserves the right to make additional disclosures with respect to other experts that he may use during trial.

Mr. Ding intends to present testimony by Isaac Pflaum, senior director of software litigation at Quandary Peak Research.

a. **Qualifications, Publications, and Prior Testimony**

Isaac Pflaum is the senior director of software litigation at Quandary Peak Research. He has extensive experience in reviewing software source code, and in source code architecture and design. His expertise covers a wide range of programming languages and technologies, including mobile and IoT devices, industrial and automotive controls, consumer and medical devices, and e-commerce and enterprise systems and websites. Mr. Pflaum's qualifications are set forth in the attached curriculum

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vitae at **Exhibit 1**. Mr. Pflaum's curriculum vitae also lists his publications authored in the last ten (10) years and the list of cases in which Mr. Pflaum has previously testified.

b. Summary of Opinions and Bases and Reasons for Opinions

Mr. Pflaum is expected to offer testimony in the form of opinions or otherwise, as follows:

1.   Mr. Pflaum is expected to testify about the incentives that Google and other businesses within the data center industry have to make information publicly available during the time frame alleged in the indictment. Mr. Pflaum is expected to testify that, in the cloud and data center industry, there were strong incentives for data center providers, including Google, to make data center technical information, such as code structure, interfaces, and technical information about hardware, publicly available or open source because it drives adoption, trust, and demand for the data service provider's services. Open-sourcing software (like Kubernetes, originally developed at Google analogous to Borg) lowers barriers for developers and companies, making it easier for them to build on and adopt a provider's ecosystem—which often lead to more customers wanting to use and pay for the underlying cloud infrastructure provided by data center providers, including Google. Mr. Pflaum is also expected to testify that transparency about data center designs, energy efficiency, and security practices built trust with regulators, enterprise clients, and the public, showing that the company is sustainable and secure. Finally, by contributing to open standards and research, cloud providers such as Google benefitted from network effects: when the community improves a tool or technology, the provider such as Google also gains without bearing the full cost of innovation. Mr. Pflaum is expected to testify about an array of public materials regarding the technology in the alleged trade secret documents. A preliminary list of the documents that Mr. Pflaum is expected to testify about are attached as **Exhibit 2**. Mr. Pflaum's investigation is ongoing and Mr. Pflaum expects to supplement his list of public materials prior to trial.

2.   Mr. Pflaum is expected to testify about the technical information that was available to any single individual or company trying to start a business in the cloud and data center industry during the time frame alleged in the indictment. Much of the information could be freely accessed through open-source repositories such as GitHub. For example, GitHub hosted widely used projects like OpenStack, an open-source cloud computing platform that provides scalable infrastructure-as-a-service (IaaS), and Kubernetes, a container orchestration system originally developed by Google that has become the industry standard for managing workloads in data center. Beyond these flagship projects, GitHub contained countless smaller repositories that provide scripts for server provisioning, templates for virtual machines, and even sample architectures for secure multi-tenant environments. Mr. Pflaum is also expected to testify about the commercially available, off-the-shelf solutions that would have been available to any single individual or company operating in this space. Mr. Pflaum is expected to testify that, together, these open-source and commercially available resources made it so that a startup did not need to build its infrastructure knowledge from scratch; a broad library of technical guides, software frameworks, and community-driven code was already publicly available to accelerate innovation in the cloud and data center sector.

3.   Mr. Pflaum is expected to testify about how reconstructing Google's data centers as a small start up would have been technically infeasible or otherwise dissimilar for the relevant time period. Modern hyperscale facilities required multi-billion-dollar capital expenditures for site acquisition, reinforced physical plant construction, redundant power distribution units, uninterruptable power supply systems, and advanced liquid-cooling and HVAC structure. At the operational level, sustaining these

2

environments demanded specialized teams across electrical engineering, mechanical systems, networking, distributed systems, and information security, in addition to global supply chains for custom ASICs (e.g., TPUs), high-density servers, and networking hardware. Beyond physical plant and hardware, replicating the software stack—Google's orchestration layers, distributed file systems, container schedulers, and AI frameworks—required ecosystem of contributions by hundreds of engineers.

4.   Mr. Pflaum is expected to testify about how Google's data centers operate at a massive scale, such that statistically significant hardware and software errors are both inevitable and occur at a predictable rate due to the volume of machines and processes involved. Mr. Pflaum is expected to testify that, in response to these conditions, Google developed specialized technologies, such as its cluster management system Borg, that are designed to manage, tolerate, and mitigate the constant occurrence of failures in this environment. Mr. Pflaum is expected to testify that these technologies were tailored to the extraordinary size and complexity of Google's infrastructure and were not directly applicable to smaller-scale computing environments, where error rates and operational challenges differ substantially.

5.   Relying upon his professional experience, Mr. Pflaum is expected to testify that engineers often demonstrate a tendency to act as information collectors, collecting and storing materials they encounter across a wide range of sources, regardless of whether the immediate relevance or need is clear. Mr. Pflaum will testify about how this behavior stems from professional practice, as engineers rely on accumulated reference materials, code snippets, technical documentation, and prior problem-solving approaches to address future challenges efficiently.

6.   Mr. Pflaum is expected to address and respond to the opinions offered by the prosecution's expert(s), including any methodologies, definitions, or conclusions presented therein. The prosecution has not yet disclosed its experts.

7.   Mr. Pflaum is expected to testify about the documents that the prosecution intends to allege contain trade secrets at trial. The prosecution revised its list of documents on August 20, 2025. The prosecution is now alleging that 155 alleged trade secrets contained in 105 documents were misappropriated by Mr. Ding. The 105 documents are divided into seven categories.

Trade Secret Category 1

8.   Mr. Pflaum is expected to testify that he reviewed each of the alleged trade secrets in **Trade Secret Category 1** ("TS 1"), as well as each FBI 302 report that discusses or references the alleged trade secrets in TS 1.

9.   Mr. Pflaum is expected to testify about and regarding the twenty-two alleged trade secrets in TS 1, including as discussed below.

10.   Mr. Pflaum is expected to testify that the information in TS 1 pertains generally to instruction set architecture (ISA) materials and InterChip Interconnect (ICI) documents.

11.   Mr. Pflaum is expected to testify about ISAs generally, including their typical uses, the audiences for such materials, and how ISAs were published and understood across the industry during the relevant time period. He is expected to explain key terminology to provide context for the

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documents in TS 1. He is further expected to testify that, compared to the ISA documentation published by companies such as Intel, AMD, and NVIDIA, the materials in TS 1 are less detailed, less comprehensive, and do not provide the level of information those companies routinely made available to outside developers without restriction to support driver and compiler development.

12.   Mr. Pflaum is expected to testify about inconsistencies between Google witness statements about the TS 1 documents and actual document content. Mr. Pflaum will testify that the documents in TS 1 do not include the type of detailed technical information that would materially assist an implementer in building or replicating chips, i.e., the documents are not at the level one would expect for something that would be claimed as a trade secret, given publicly available, similar information.

13.   Mr. Pflaum is expected to testify that critical implementation-level materials, such as register-transfer level (RTL) code or other design foundation files, are entirely absent from TS 1. He is expected to testify that none of the documents in TS 1 contain the technical documentation necessary to actually implement the designs. To the extent there is "code" present in TS 1, Mr. Pflaum is expected to testify that the code is pseudocode, which is informal and illustrative of logic flow, and not actual working code that could be compiled or used to build hardware. Mr. Pflaum is also expected to testify that portions of the code are not chip-related, further underscoring the high-level nature of the documents. Mr. Pflaum is expected to testify that without the actual chip designs and supporting documentation, it would not have been possible during the time frame alleged in the Superseding Indictment to build the chips from the ISA or ICI materials in TS 1.

14.   Mr. Pflaum is expected to testify about how TS 1 documents contain links to internal Google systems and detailed implementation specifications that were not included in the prosecution's productions. Mr. Pflaum is expected to testify about how missing information and broken links within the TS 1 documents create incomplete documentation chains where the provided materials serve as high-level summaries pointing to inaccessible detailed specifications. Mr. Pflaum is expected to testify about how the systematic referencing of internal documents that were not provided raises at least serious questions about the usefulness of the documents outside Google. He is expected to testify that, because of these links and other informalities within the documents, the documents themselves are best understood as overviews or conceptual frameworks, pointing the reader to where more detailed documents existed within Google's internal network for which authorization is needed for access, but not containing the underlying detailed information themselves.

15.   Mr. Pflaum is expected to testify that system design documents, such as those in TS 1, function as organizing principles or "tables of contents" for more comprehensive technical libraries. He is expected to testify that these system-level documents do not contain the substantive technical detail necessary for implementation. He is expected to testify that block diagrams, partition maps, and memory address references appear in some documents, but these are high-level schematics that are insufficient for replication of the systems to which these documents pertain.

16.   Mr. Pflaum is expected to testify that the technology described in the documents is designed for hyperscale operations and clusters of hundreds of thousands or millions of machines. The technology described in the documents would not provide economic value at smaller scales during the relevant time period alleged in the Superseding Indictment.

4

17.   Mr. Pflaum is expected to testify about what was required to fabricate a complex chip such as a TPU or GPU during the relevant time period alleged in the Superseding Indictment. Mr. Pflaum is expected to testify that RTL design foundations, register description language (RDL) integration, validation reports, and related documentation were indispensable to this process, and that none of these are present in TS 1. Mr. Pflaum is expected to testify about the gaps in the TS 1 materials.

18.   Mr. Pflaum is expected to testify that the documents in TS 1 contain public information, including information made public by Google and its engineers through publications, conference presentations, and Google's blogs about the relevant technology. Mr. Pflaum is expected to testify that the level of detail in the alleged trade secret documents is basic and, in many respects, comparable to information that is already publicly available in the industry and easily compiled from public sources.

Trade Secret Category 2

19.   Mr. Pflaum is expected to testify that he reviewed each of the alleged trade secrets in **Trade Secret Category 2** ("TS 2"), as well as each FBI 302 report that discusses or references the alleged trade secrets in TS 2.

20.   Mr. Pflaum is expected to testify about and regarding the sixteen alleged trade secrets in TS 2, including as discussed below.

21.   Mr. Pflaum is expected to testify that the information in the TS 2 documents pertains generally to Google's TPUs, their organization into racks in Google's data centers, and the software that manages those TPUs.

22.   Mr. Pflaum is expected to testify that many documents in TS 2 provide only overviews and are not at the level one would expect for trade secrets, as the overviews are consistent with publicly available similar descriptions available during the relevant time period alleged in the Superseding Indictment. Mr. Pflaum is expected to testify that portions of these materials read like introductory, informal summaries. He is expected to testify that such materials are consistent with documents prepared for purposes other than detailed engineering specifications (devoid of technical detail).

23.   Mr. Pflaum is expected to testify that while some documents refer to technical systems, they do not provide the information required to reproduce or replicate Google's TPU chips or TPU systems during the relevant time period alleged in the Superseding Indictment. He is expected to testify that complex systems of this type depend on internal Google components that were not available outside of the company during the relevant time period, such as proprietary software, ASIC firmware, and supporting infrastructure, rendering the information not useful to anyone outside of Google who does not have access to the complete system or its component parts. He is expected to testify that these systems require massive, ongoing support commitments and the coordinated operation of many interdependent components, none of which could have been reconstructed from the documents in TS 2 during the relevant time period.

24.   Mr. Pflaum is expected to testify that some documents reference software stacks associated with TPU systems. He is expected to testify that the stacks described include multiple components, such as Google Core ML, Platforms System Software, Diagnostics Software, and

Platforms Accelerator Software (including modeling and ASIC software). He is expected to testify that while the names of these components appear in the documents, their structure, interconnection, and internal functioning are not described, rendering the information not useful to anyone who does not have access to these missing components, which are not among the materials produced. Mr. Pflaum is expected to testify that additional elements such as VL Tools Kernel Space Driver, VFIO, and firmware are also mentioned, but that these are proprietary to Google and are not meaningfully explained in TS 2, again, thus rendering them useless outside Google.

25.   Mr. Pflaum is expected to testify that these software stacks are specific to Google's internal TPU systems and cannot be replicated without access to the internal code, documentation, and infrastructure that are not included in TS 2. He is expected to testify that, to the extent that there is any code referenced in the documents, it is fragmentary and lacks the detail required for implementation. He is expected to testify that the incomplete nature of these references demonstrates that TS 2 does not provide sufficient technical information to reproduce TPU systems.

26.   Mr. Pflaum is expected to testify about how TS 2 documents contain links to internal Google systems and detailed implementation specifications that were not included in the prosecution's productions. Mr. Pflaum is expected to testify about how missing information and broken links within the TS 2 documents creates incomplete documentation chains where the provided materials serve as high-level summaries pointing to inaccessible detailed specifications. Mr. Pflaum is expected to testify about how the systematic referencing of internal documents that were not provided raises at least serious questions about the usefulness of the documents outside Google. Mr. Pflaum is expected to testify that, because of these links and other informalities within the documents, the documents themselves are best understood as overviews or conceptual frameworks, pointing the reader to where more detailed documents existed during the relevant time period, but not containing the underlying detailed information themselves.

27.   Mr. Pflaum is expected to testify that, in his view, during the relevant time period alleged in the Superseding Indictment, other technology companies such as Cisco and SuperMicro made publicly available detailed specifications for system-level hardware and operations comparable to the types of descriptions contained in TS 2. He is expected to testify that, relative to this public information, the TS 2 documents are not extraordinary in content and, in many respects, at least resemble information that was already available in the public domain.

28.   Mr. Pflaum is expected to testify that he has also reviewed the witness statements in the FBI 302 reports that reference TS 2 documents. Mr. Pflaum is expected to testify about inconsistencies between Google witness statements about the TS 2 documents and actual document content. Mr. Pflaum is expected to testify that the materials in TS 2 are primarily overviews, summaries, or project-management documents, and do not contain the design-level or implementation-level information necessary to replicate Google's TPU chips, machines, or systems.

29.   Mr. Pflaum is expected to testify that, taken together, the documents in TS 2 do not provide sufficient technical detail to constitute independent economic value to a competitor. He is expected to testify that these materials are high-level, often business-oriented, and at most serve to contextualize or reference more detailed documents that were not included. He is expected to testify that this format is consistent with internal note-taking or summary-style documents created by an employee who assumes future access to the underlying materials if needed for work purposes. He is

expected to testify that, because the documents rely on additional internal Google components or documentation not included in TS 2, they do not provide sufficient detail for meaningful use outside Google.

Trade Secret Category 3

30.   Mr. Pflaum is expected to testify that he reviewed each of the alleged trade secrets in **Trade Secret Category 3** ("TS 3"), as well as the FBI 302 report that discusses or references the alleged trade secrets in TS 3.

31.   Mr. Pflaum is expected to testify about and regarding the twenty-six alleged trade secrets in TS 3, including as discussed below.

32.   Mr. Pflaum is expected to testify about how the TS 3 documents relate to Google's TPU software architecture, including the software that allegedly manages TPU hardware resources, facilitates inter-TPU communications, and allocates interconnected TPU collections to various workloads.

33.   Mr. Pflaum is expected to testify about how the TS 3 documents contain high-level architectural descriptions and product requirement documents (PRDs). Mr. Pflaum is expected to testify that the documents do not contain sufficient implementation details to allow anyone to replicate the technology described in the documents. Mr. Pflaum is expected to testify that the TS 3 documents do not contain algorithm implementations, logic code, or source code.

34.   Mr. Pflaum is expected to testify about how the technology discussed in the TS 3 documents depends critically on inaccessible Google infrastructure, which was not included or described in the alleged trade secret materials. The information included in the designated trade secrets relies upon, among other systems, Google's Borg cluster management system, TPU hardware unavailable outside of Google, internal Google libraries and frameworks, Google's private B4 WAN network; custom SmartNICs (Diorite), proprietary interconnected cables unavailable outside of Google, and Google's internal scheduling software. Mr. Pflaum is expected to testify that the documents do not describe these other interconnected components and no one outside of Google would have had access to the components during the relevant time period alleged in the Superseding Indictment. Without the additional components, the technology discussed in the TS 3 documents would not be useful to anyone who did not have access to the other material.

35.   Mr. Pflaum is expected to testify about how some of the technologies discussed in the TS 3 documents are open source and publicly available. Mr. Pflaum is expected to testify about how, for example, XLA (Accelerated Linear Algebra) is an open-source machine learning compiler for GPUs, CPUs, and ML accelerators. *See, e.g.*, OpenXLA Project, https://openxla.org/xla. Mr. Pflaum is expected to testify about how the information within the alleged trade secret documents has become and was publicly available, and about published research papers, including by Google, that describe how to use XLA and similar approaches to manage machine-learning workloads. *See, e.g.*, https://cloud.google.com/blog/products/ai-machine-learning/introducing-pytorch-xla-2-3

36.   Mr. Pflaum is expected to testify about how TS 3 documents contain links to internal Google systems and detailed implementation specifications that were not included in the prosecution's productions. Mr. Pflaum is expected to testify about how missing information and broken links within the TS 3 documents creates incomplete documentation chains where the provided materials serve as high-

level summaries pointing to inaccessible detailed specifications. Mr. Pflaum is expected to testify about how the systematic referencing of internal documents that were not provided raises at least serious questions about the usefulness of the documents outside Google. He is expected to testify that, because of these links and other informalities within the documents, the documents themselves are best understood as overviews or conceptual frameworks, pointing the reader to where more detailed documents exist, but not containing the underlying detailed information themselves.

37.   Mr. Pflaum is expected to testify about how the technology described in the trade secret documents is designed for hyperscale operations for hundreds of thousands or millions of machines, and would not provide economic benefits at smaller scales.

Trade Secret Category 4

38.   Mr. Pflaum is expected to testify that he reviewed each of the alleged trade secrets in **Trade Secret Category 4** ("TS 4"), as well as each FBI 302 report that discusses or references the alleged trade secrets in TS 4.

39.   Mr. Pflaum is expected to testify about and regarding the twenty-two alleged trade secrets in TS 4, including as discussed below.

40.   Mr. Pflaum is expected to testify that the documents are generally about how Google puts together NVIDIA's commercially-available chips in Google's data centers.

41.   Relying on his expertise and experience in the software industry, Mr. Pflaum is expected to testify that the TS 4 documents do not contain the engineering specifications necessary for external parties to recreate or reverse engineer Google's proprietary systems. Mr. Pflaum is expected to testify about how the materials function primarily as internal planning documents, high-level system overviews, and integration guides for commercially available third-party components, with critical dependencies on Google's internal infrastructure unavailable to those outside Google that render them insufficient for competitive system reproduction during the relevant time period alleged in the Superseding Indictment.

42.   Mr. Pflaum is expected to testify about how the majority of documents in TS 4 contain only conceptual block diagrams and system overviews rather than the detailed engineering specifications required for system reproduction, and how these concepts were similar if not the same as found in publicly available materials available during the relevant time period alleged in the Superseding Indictment. Mr. Pflaum is expected to testify about how critical implementation specifics are consistently absent necessary for actual system construction. Mr. Pflaum is expected to testify that the information in the TS 4 documents would not be useful to anyone outside of Google who did not have access to the implementation details that were not included in the TS 4 materials.

43.   Mr. Pflaum is expected to testify about how TS 4 documents contain over 200 references to internal Google systems and detailed implementation specifications that were not included in the prosecution's productions. Mr. Pflaum is expected to testify about how missing information and broken links within the TS 4 documents creates incomplete documentation chains where the provided materials serve as high-level summaries pointing to inaccessible detailed specifications. Mr. Pflaum is expected to testify about how the systematic referencing of internal documents that were not provided raises serious questions about the usefulness of the documents

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outside Google. He is expected to testify that, because of these links and other informalities within the documents, the documents themselves are best understood as conceptual frameworks, pointing the reader to where more detailed documents exist, but not containing the underlying detailed information themselves.

44.   Mr. Pflaum is expected to testify about how the TS 4 documents rely extensively on publicly available third-party technologies rather than proprietary Google innovations. Mr. Pflaum is expected to testify that the BigRig and AdAstra systems are explicitly described as implementations of NVIDIA's commercially available HGX platform, with extensive references to NVIDIA's public documentation. Mr. Pflaum is expected to testify that Google's network topologies use standard NVIDIA protocols (NVLink, NCCL), and its mechanical designs follow conventional data center infrastructure practices.

45.   Mr. Pflaum is expected to testify about how the technology discussed in the TS 4 documents depends critically on inaccessible Google infrastructure, which was not included or described in the allegedly misappropriated materials. The software systems described in the TS 4 documents rely fundamentally on Google's internal Borg cluster management system, which was not publicly available during the time period alleged in the Superseding Indictment and whose internal workings are not detailed in the documents. The systems described in the TS 4 documents depend on Google-specific hardware including proprietary BMC controllers, Diorite networking components, and custom power management systems that are not commercially accessible to external parties.

46.   Mr. Pflaum is expected to testify about how a significant portion of the TS 4 documentation represents planning documents from the 2020-2022 timeframe, containing prospective designs and estimates rather than implemented systems. Mr. Pflaum is expected to testify about how many of the documents describe technologies that have since been replaced or modified in Google's actual implementations.

47.   Mr. Pflaum is expected to testify about how competitors could achieve functionality similar to that described in the TS 4 documents by following the same publicly available vendor documentation that Google references, rather than relying on access to Google documents.

48.   Mr. Pflaum is expected to testify about inconsistencies between Google witness statements about the TS 4 documents and actual document content.

Trade Secret Category 5

49.   Mr. Pflaum is expected to testify that he reviewed each of the alleged trade secrets in **Trade Secret Category 5** ("TS 5"), as well as each FBI 302 report that discusses or references the alleged trade secrets in TS 5. Mr. Pflaum is expected to testify about inconsistencies between Google witness statements about the TS 5 documents and actual document content.

50.   Mr. Pflaum is expected to testify about and regarding the thirty-five alleged trade secrets in TS 5, including as discussed below.

51.   Mr. Pflaum is expected to testify that the information in TS 5 pertains generally to design documents for Google's GPU software that purportedly facilitated communication between GPUs,

which Google purchased from NVIDIA, and allocated and managed collections of interconnected GPUs to different workloads.

52.   Mr. Pflaum is expected to testify that the documents in TS 5 do not contain Google software designs, pseudocode, algorithms, or source code. He is expected to testify that, instead of providing engineering-level specifications, the documents consist of conceptually labeled materials. Mr. Pflaum is expected to testify that such materials are not the kind of design documentation that could be used to write or implement software.

53.   Mr. Pflaum is expected to testify that, for example, the "TCPDirect for AdAstra System Architecture" document suggests only that TCPDirect may be used for data transfer between NICs and GPUs in place of GPUDirect RDMA. He is expected to testify that the document does not provide detailed design architecture. Mr. Pflaum is expected to testify about public information related to TCPDirect that was available during the relevant time period in the Superseding Indictment.

54.   Mr. Pflaum is expected to testify that diagrams in the TS 5 documents, including those labeled "Software Overview," provide only high-level block compositions. He is expected to testify that the diagrams depict components placed alongside or atop one another without explanation of hierarchy or detailed description of how the blocks interact.

55.   Mr. Pflaum is expected to testify that much of the remaining material in TS 5 consists of progress updates, system software views, high-level execution plans, diagnostics, and manufacturing status reports. He is expected to testify that these categories of information are managerial or operational summaries, not detailed technical designs.

56.   Mr. Pflaum is expected to testify that none of the TS 5 documents provide detailed *design information* about GPU-to-GPU software communication. He is expected to further testify that none of the TS 5 documents provide detailed design information about software for allocating and managing collections of interconnected GPUs to workloads.

57.   Mr. Pflaum is expected to testify that the materials in TS 5 cannot be used to replicate the described functionality because they are wholly dependent on Google's internal systems and infrastructure. He is expected to testify that the documents serve only as context within Google's unique environment, and would not enable an outside party to build, replicate, or implement GPU software systems.

58.   Mr. Pflaum is expected to testify about how TS 5 documents contain links to internal Google systems and detailed implementation specifications that were not included in the prosecution's productions. Mr. Pflaum is expected to testify about how missing information and broken links within the TS 5 documents creates incomplete documentation chains where the provided materials serve as high-level summaries pointing to inaccessible detailed specifications.

59.   Mr. Pflaum is expected to testify about how the technology described in the trade secret documents is designed for hyperscale operations for hundreds of thousands or millions of machines, and would not provide economic benefits at smaller scales.

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Trade Secret Category 6

60.   Mr. Pflaum is expected to testify that he reviewed each of the alleged trade secrets in **Trade Secret Category 6** ("TS 6"), as well as each FBI 302 report that discusses or references the alleged trade secrets in TS 6.

61.   Mr. Pflaum is expected to testify about and regarding the seven alleged trade secrets in TS 6, including as discussed below.

62.   Mr. Pflaum is expected to testify that the information in TS 6 pertains generally to design specifications related to Google's proprietary chip components intended to deliver low-latency and high-bandwidth transfers of data over large-scale networks on Google's SmartNIC.

63.   Mr. Pflaum is expected to testify that the documents in TS 6 do not contain internal implementation details. He is expected to testify that there are no packet-level specifications, no internal Google Reliable Transport ("GRT") details, and no materials showing the type of engineering-level design information that would be necessary to implement or replicate the underlying hardware or software.

64.   Mr. Pflaum is expected to testify that, to the extent the documents contain partition diagrams, these diagrams are high-level and do not provide detail on the internal workings of the system. He is expected to testify that these materials do not contain sufficient information to build a GRT hardware module, such as one used inside Google's Diorite platform.

65.   Mr. Pflaum is expected to testify that the TS 6 documents are best understood as overviews and high-level block diagrams, containing industry landscape summaries and conceptual descriptions rather than design-level specifications. He will testify that certain documents only discuss how RDMA could operate under different modes, but do not provide design specifications at the level of detail required to implement those capabilities.

66.   Mr. Pflaum is expected to testify that one of the relevant chip platforms, "Mount Evans," was designed and built by Intel, not Google. Intel published details about its Mount Evans chip design during the relevant time period alleged in the Superseding Indictment.

67.   Mr. Pflaum is expected to testify that, even if the TS 6 documents were viewed in isolation, they cannot be used to build or replicate the described technology. He is expected to testify that the ability to make use of such materials depends on Google's preexisting ecosystem, proprietary infrastructure, and specific vendor relationships to which those outside Google would not have known during the relevant time period, thus rendering the information not useful to them. Without those relationships and systems, the TS 6 documents provide no roadmap for implementation.

68.   Mr. Pflaum is expected to testify that the materials in TS 6 are highly interdependent on Google's internal systems to which outsiders would lack access during the relevant time period, and should be understood as contextual summaries. He is expected to testify that the documents lack the technical specificity, implementation details, and supporting design artifacts that would be expected of true design specifications.

69.   Mr. Pflaum is expected to testify about how TS 6 documents contain links to internal Google systems and detailed implementation specifications that were not included in the prosecution's productions. Mr. Pflaum is expected to testify about how missing information and broken links within the TS 6 documents create incomplete documentation chains where the provided materials serve as high-level summaries pointing to inaccessible detailed specifications.

70.   Mr. Pflaum is expected to testify about how the technology described in the trade secret documents is designed for hyperscale operations for hundreds of thousands or millions of machines, and would not provide economic benefits at smaller scales.

Trade Secret Category 7

71.   Mr. Pflaum is expected to testify that he reviewed each of the alleged trade secrets in **Trade Secret Category 7** ("TS 7"), as well as each FBI 302 report that discusses or references the alleged trade secrets in TS 7.

72.   Mr. Pflaum is expected to testify about and regarding the twenty-nine alleged trade secrets in TS 7, including as discussed below.

73.   Mr. Pflaum is expected to testify that the information in TS 7 pertains generally to design documents for Google's software intended to implement high-performance and cloud networking on its SmartNIC.

74.   Mr. Pflaum is expected to testify that the TS 7 materials are primarily high-level descriptions, high-level design notes, block diagrams, and data flow overviews. He is expected to testify that, while the "Diorite-gHMA" document contains some code snippets, these are incomplete and include numerous "TODO" comments, underscoring that they are not working code or implementable designs.

75.   Mr. Pflaum is expected to testify that the remaining documents, such as the "CloudRDMA-Arcus" requirement-level specification, consist of requirement statements, sample API calls, and example scenarios across approximately 45 pages. He is expected to testify that these are conceptual or requirement-level documents, not detailed design specifications.

76.   Mr. Pflaum is expected to testify that, in general, the TS 7 documents do not contain software design details sufficient to implement high-performance or cloud networking on a SmartNIC. He will testify that the documents are best understood as requirements documents, conceptual descriptions, and illustrative examples, rather than engineering-level specifications.

77.   Mr. Pflaum is expected to testify that the TS 7 materials are highly interdependent on Google's internal systems and infrastructure. He is expected to testify that, without those systems, the documents cannot be used to replicate or build networking software on a SmartNIC outside of Google.

78.   Mr. Pflaum is expected to testify about how TS 7 documents contain links to internal Google systems and detailed implementation specifications that were not included in the prosecution's productions. Mr. Pflaum is expected to testify about how missing information and broken links within the TS 7 documents create incomplete documentation chains where the provided materials serve as high-level summaries pointing to inaccessible detailed specifications.

GOODWIN

79.   Mr. Pflaum is expected to testify about how the technology described in the trade secret documents is designed for hyperscale operations for hundreds of thousands or millions of machines, and would not provide economic benefits at smaller scales.

Sincerely,

Grant P. Fondo
Partner

G GOODWIN

APPROVAL OF DISCLOSURE

Pursuant to Federal Rule of Criminal Procedure 16(b)(1)(C)(v), I approve this disclosure of my expected expert testimony.

Date: 8/26/2025

Isaac Pflaum
Isaac Pflaum

EXHIBIT 1

Isaac Pflaum

Senior Director of Software Litigation

Quandary Peak Research
Chicago, Illinois

quandarypeak.com/isaac

I lead teams of experts, advise clients, and provide testimony in a variety of software-related intellectual property, project failure, and contract disputes.

I have a strong track record of testifying as an expert in both deposition and trial settings, backed by extensive experience in reviewing and reverse engineering software source code, architecture, and designs. My expertise covers a wide range of programming languages and technologies, including mobile and IoT devices, industrial and automotive controls, consumer and medical devices, as well as e-commerce and enterprise systems and websites.

In addition to my role as a software litigation expert, I bring a unique combination of skills as an attorney and a registered patent agent. My professional background spans financial services and software development, providing me with a well-rounded perspective in navigating complex legal and technical challenges.

Software Review Experience (Languages)

C/C++/C#, Obj-C (iOS), Swift, SQL, Java, Kotlin, VB.Net, COBOL, JS, TS, PHP, Python, GoLang, Ruby, CodeSys, MatLab, Fortran, VHDL, Assembly, TEAL

Software Review Experience (Industries)

– Software project failure (Government software procurement, public benefits administration, Out of the Box (OOB), Commercial Off The Shelf (COTS), customizations, configurations, add-ons and extensions to ERP, SAP, and IBM products)

– E-commerce and enterprise systems and websites (e.g., SaaS, COTS, OOTB and custom applications, AWS, Azure, IBM, and SAP)

– Mobile devices (e.g., applications and operating systems for Android and iOS smartphones and tablets), Internet of Things (IoT) devices and sensor networks, and consumer electronics (e.g., set-top boxes and portable media players)

– Industrial and automotive controls and machine vision (e.g., robotics and factory automation technologies, automotive throttle, braking controls, communication systems, CAN bus communications protocols and designs, and functional safety technology), and on-Chip and on-board controllers including power management and memory access controllers

– FinTech (e.g., loan underwriting, insurance and benefits administration, consumer credit reporting, cryptographic protocols, cryptocurrencies, smart contracts and peer-to peer messaging systems)

– Medical and analytical devices and electronic medical record databases

Software Related Testimony

- **Vimo Inc d/b/a GetInsured v. <u>Deloitte Consulting LLP</u>** | May 2024–Mar 2025
  Jurisdiction: Superior Court of CA, County of Santa Clara
  Case Number: G-24-7-NA, 22-cv-405262
  Counsel: Kirkland & Ellis LLP
  Nature of Suit: Trade Secret, Breach of Contract
  Testimony: Expert report

- **iSpot.TV, Inc v. <u>Nadya Teyfukova, and Entertainment Data Oracle, Inc</u>** | Dec 2023–Present
  Jurisdiction: US District Court, Central California
  Case Number: 2:21-cv-06815
  Counsel: Holwell Shuster & Goldberg LLP
  Nature of Suit: Trade Secret, Breach of Contract
  Testimony: Declaration, rebuttal report, deposition

- **<u>WIPRO Limited</u> v. First Data Government Solutions, LP** | July 2023–Present
  Jurisdiction: District Court, D. Nebraska
  Case Number: 4:22-cv-03116-JMG-MDN (filed July 1, 2022)
  Counsel: Cline Williams Wright Johnson & Oldfather
  Nature of Suit: Breach of Contract
  Testimony: Deposition, opening and rebuttal reports

- **Best Ring, LLC, et al. v. <u>Ronin POS, LLC, et al.</u>** | June 2023–Present
  Jurisdiction: USDC Western District of Texas Waco Division
  Case Number: 6:22-cv-00766-ADA (filed July 11, 2022)
  Counsel: Naman, Howell, Smith & Lee, PLLC
  Nature of Suit: Patent, Copyright, Trade Secret
  Testimony: Expert report

- **<u>Coinmint</u> v. Katena** | 2022
  Jurisdiction: American Arbitration Association
  Case Number: 01-22-0001-7627 – 20427 (filed August 29, 2022)
  Counsel: Gordon Rees Scully Mansukhani, LLP
  Nature of Suit: Breach of Contract, Fraud
  Testimony: Deposition, opening and rebuttal reports

- **<u>Enigmatus, s.r.o.</u> v. Playtika Ltd. et al.** | 2022
  Jurisdiction: Federal Court of Ottawa
  Case Number: T-2085-16 (filed December 2, 2016)
  Counsel: Dipchand LLP
  Nature of Suit: Trademark
  Testimony: Deposition, expert report

- **<u>Wipro Limited</u> v. State of Nebraska** | 2021
  Jurisdiction: Lancaster Co. Dist. Ct.
  Case Number: D02CI190000676 (filed March 4, 2019)
  Nature of Suit: Breach of Contract
  Testimony: Deposition, opening and rebuttal expert reports

- **<u>FinancialApps LLC</u> v. Envestnet, Inc.** | 2020
  Jurisdiction: Dist. Del.
  Case Number: 19-1337-CFC-CJB (filed July 17, 2019)
  Nature of Suit: Trade Secret Misappropriation
  Testimony: Deposition, opening and rebuttal expert reports, affidavits relating to discovery and production disputes

- **Penrose Hill, Limited et al. v. Mabray** | 2020
  Jurisdiction: N.D. Calif.
  Case Number: 4:20-cv-01169 (filed February 14, 2020)
  Nature of Suit: Libel
  Testimony: Expert report, declaration relating to discovery and production disputes

- **VoterLabs, Inc. v. Ethos Group Consulting Services LLC** | 2020
  Jurisdiction: Dist. Del.
  Case Number: 1:19-cv-00524 (filed March 15, 2019)
  Nature of Suit: Breach of Contract
  Testimony: Declaration relating to discovery and production disputes

- **Morris Development, Inc. v. Extreme Impact, Inc.** | 2019
  Jurisdiction: CA
  Case Number: 16CV003781 (filed November 23, 2016)
  Nature of Suit: Copyright and Breach of Contract
  Testimony: Trial, deposition and expert report

- **Lisa M. Ostella v. Orly Taitz** | 2018
  Jurisdiction: C.D. Calif.
  Case Number: 8:11-cv-00485 (filed March 29, 2011)
  Nature of Suit: Libel
  Testimony: Expert declarations

- **Certain Road Milling Machines and Components Thereof** | 2018
  Jurisdiction: International Trade Commission (ITC)
  Case Number: ITC 337-TA-1067 (filed July 10, 2017)
  Nature of Suit: Patent Infringement
  Testimony: Trial, deposition and expert report

- **Golden et al. v. Clear Advantage Marketing, et al.** | 2018
  Jurisdiction: S. D. Iowa
  Case Number: 4:2016-cv-00529 (filed September 30, 2016)
  Nature of Suit: Copyright, Trade Secret
  Testimony: Deposition and opening and rebuttal expert reports

- **Kemper Corporate Services Inc. v. Computer Sciences Corporation et al.** | 2016
  Jurisdiction: AAA Arbitration
  Nature of Suit: Breach of Contract
  Testimony: Expert affidavit

- **Robert Nekoroski et al. v. Shajy Mathai et al.** | 2014
  Jurisdiction: CA
  Case Number: 1184CV04315 (filed November 29, 2011)
  Nature of Suit: Trade Secret
  Testimony: Opening and rebuttal expert reports

Litigation Consulting

- **Chase Global Services v. Protech Solutions Inc.** | July 2025–Present
  Jurisdiction: AR Civil Division, Circuit Court of Pulaski County
  Case Number: 60-cv-19-739
  Counsel: McDaniel Wolff PLLC
  Nature of Suit: Trade Secret

- **United States v. Confidential Defendant** | May 2025–Present
  Jurisdiction: US District Court, Northern District of California
  Nature of Suit: Criminal

- **KBranch v. BSI3 Menu Buyer, Inc** | Apr 2025–Present
  Jurisdiction: Superior Court of the State of Delaware
  Case Number: N23C-10-021
  Counsel: Goodwin Procter LLP
  Nature of Suit: Breach of Contract
  Technology: Online food ordering, Google Profiles Integration Software

- **Revenue Management Solutions, LLC v. Commerce Bank** | Apr 2025–Present
  Jurisdiction: US District Court for the Western District of Missouri
  Case Number: 4:25-cv-00140
  Counsel: Banner Witcoff
  Nature of Suit: Trade Secret
  Technology: Accounting and payroll software

- **Beaver Research Company v. The Huntington National Bank** | Apr 2025–July 2025
  Jurisdiction: Circuit Court of MI, County of Kalamazoo
  Case Number: 2024-0267-CB
  Counsel: Kreis Enderle Hudgins & Borsos, P.C.
  Nature of Suit: Negligence
  Technology: ACH intra-bank transfer fraud detection software

- **Apkudo, Inc. v. Monirul Quasem, et al.** | Mar 2025–June 2025
  Jurisdiction: American Arbitration Association
  Case Number: 01-24-0003-0907
  Counsel: Kagan Stern Marinello & Beard, LLC
  Nature of Suit: Trade Secret, Computer Fraud
  Technology: Mobile phone grading and testing software

- **International Semiconductor Group Patent Analysis of Wireless Devices and Components** | Dec 2024–Present
  Jurisdiction: International Trade Commission (ITC)
  Case Number: 337-TA-1429
  Counsel: Sterne, Kessler, Goldstein & Fox PLLC
  Nature of Suit: Patent
  Technology: Wifi 5 and 6 optional features

- **MaddenCo, Inc v. HG AutoTech LLC** | Aug 2023–Present
  Jurisdiction: S.D. Indiana
  Case Number: 3:22-cv-00173-RLY-MPB (filed 10/31/22)
  Counsel: Delk McNally LLP | Breazeale, Sachse & Wilson, LLP
  Nature of Suit: Copyright; Third-party Neutral
  Technology: Tire inventory management software

- **Lexos Media IP, LLC v. Northern Tool & Equipment Company, Inc** | Aug 2023–Oct 2023
  Jurisdiction: US District Court for the Eastern District of Texas
  Case Number: 2:2022cv00355 (filed September 12, 2022)
  Counsel:Taft Stettinius & Hollister LLP
  Nature of Suit: Patent
  Technology: Ecommerce web application photo display

- **K+S Potash Canada General Partnership v. <u>Veolia Water Technologies Inc</u>** | Mar 2023–Present
  Jurisdiction: Court Of Queen's Bench For Saskatchewan
  Case Number: QB No. 817 (filed 2018)
  Counsel: Stikeman Elliott LLP
  Nature of Suit: Breach of Contract
  Technology: Plant Design Management Systems (PDMS), Clash Detection, Database synchronization
  Role: Served as Consulting Expert

- **<u>Enigmatus, s.r.o.</u> v. Playtika Ltd. et al.** | 2022
  Jurisdiction: Federal Court of Ottawa
  Case Number: T-2085-16 (filed December 2, 2016)
  Counsel: Dipchand LLP
  Nature of Suit: Trademark
  Technology: Mobile application development, gaming, Web Application Protocol, geolocation

- **Content Engines, LLC v. <u>Rumble USA, Inc., & Rumble Inc.</u>** | 2022
  Jurisdiction: Dist. Florida
  Case Number: 8:22-cv-01949 (filed August 24, 2022)
  Counsel: Burke, Williams & Sorensen, LLP.
  Nature of Suit: Patent Infringement
  Technology: Content Delivery Network (CDN), video streaming, RAID storage

- **<u>Robotic Vision Technologies Inc.</u> v. ABB Inc** | 2022–Mar 2025
  Jurisdiction: Delaware District Court
  Case Number: 1:22-cv-01257 (filed September 9, 2022)
  Counsel: Sterne Kessler Goldstein & Fox PLLC
  Nature of Suit: Patent, Trade Secret and Copyright Infringement
  Technology: Robotic computer vision, gripper targeting, feature selection and identification

- **Espíritu Santo Holdings, LP & L1bre Holding, LLC v. <u>United Mexican States</u>** | Dec 2022–Present
  Jurisdiction: ICSID
  Case Number: ARB/20/13 - 20417 (filed September 17, 2021)
  Counsel: Pillsbury Winthrop Shaw Pittman LLP
  Nature of Suit: Investor-State Arbitration
  Technology: Mobile phone applications, ride hailing services

- **<u>The Nielsen Company, LLC</u> v. TVision Insights, Inc.** | June 2022–Nov 2024
  Jurisdiction: ND Illinois
  Case Number: 1:22-cv-00057 (filed January 14, 2022)
  Counsel: Kelley, Drye & Warren LLP.
  Nature of Suit: Patent Infringement
  Technology: Multimedia fingerprinting, reverse engineering, decompilation

- **<u>Svoboda</u> v. Amazon, Inc.** | 2022
  Jurisdiction: ND Illinois
  Case Number: 1:21-cv-05336 (filed February 25, 2022)
  Counsel: Keogh Law, LTD.
  Nature of Suit: Illinois Biometric Privacy Act (BIPA)
  Technology: Augmented Reality, Machine Vision, Face Tracking

- **Cryptocurrency Pre-Litigation Investigation** | 2022
  Jurisdiction: Federal (DOJ)
  Retained by: Defendant
  Counsel: Todd & Weld LLP
  Nature of Suit: Criminal fraud and theft
  Technology: Blockchain, smart contracts (TEAL assembly)

- **Allscripts Healthcare, LLC v. Andor Health, LLC** | 2022
  Jurisdiction: Dist. Del.
  Case Number: 1:21-cv-00707-MAK (filed August 6, 2021)
  Counsel: Locke Lord LLP
  Nature of Suit: Trade Secret
  Technology: EHR, Mobile Patient Experience (MPE) applications

- **Vound Colorado, LTD and Vound LLC v. E-Hounds, Inc** | 2022
  Jurisdiction: Dist. Del.
  Case Number: 1:21-cv-00849-UNA (filed June 14, 2021)
  Counsel: Marshall Dennehey
  Nature of Suit: Breach of Contract, Trademark
  Technology: While-label software, HASP licensing

- **Blue Island Industrial, LLC v. Sigma DT, LLC** | 2022
  Jurisdiction: Appellate Court of Illinois, First District, Fourth Division
  Case Number: 1-22-1802
  Counsel: The Cosentino Law Firm
  Nature of Suit: Rent Abatement
  Technology: PDF modification date forensics

- **Hlfip Holding, Inc. d/b/a Smart Communications IP Holdings v. York County, Pennsylvania** | 2022
  Jurisdiction: MD Penn.
  Case Number: 1:20-cv-001866-CCC (filed February 3, 2020)
  Counsel: Sterne Kessler Goldstein & Fox
  Nature of Suit: Patent Infringement
  Technology: Telecommunications, OCR scanning, document processing

- **Provisur Technologies, Inc. v. Weber, Inc.** | 2022
  Jurisdiction: WD Mo.
  Case Number: 5:19-cv-6021 (filed February 22, 2019)
  Counsel: Sterne Kessler Goldstein & Fox
  Nature of Suit: Patent Infringement
  Technology: PLC controller for robotic food packaging equipment (C++, CodeSys)

- **Certain Vehicle Controls Systems, Vehicles Containing the Same, and Components Thereof** | 2021
  Jurisdiction: International Trade Commission (ITC)
  Case Number: 337-TA-1235 (filed November 19, 2020)
  Retained by: Volkswagen America
  Counsel: Sterne Kessler Goldstein & Fox
  Nature of Suit: Patent Infringement
  Technology: CAN bus communication of terrain selection data to vehicle suspension, breaking and transmission control subsystems (C++)

- **<u>Wipro Limited</u> v. State of Nebraska** | 2021
  Jurisdiction: Lancaster Co. Dist. Ct.
  Case Number: D02CI190000676 (filed March 4, 2019)
  Counsel: Cline Williams Wright Johnson & Oldfather, L.L.P.
  Nature of Suit: Breach of Contract
  Technology: IBM Cúram Enterprise Modules and social program management platform (Java)

- **Jaguar Land Rover v. <u>Volkswagen Group of America, Inc</u>** | Dec 2020
  Jurisdiction: United States International Trade Commission Washington, D.C
  Case Number: 337-TA-1235
  Counsel: Sterne Kessler Goldstein & Fox
  Nature of Suit: Patent infringement

- **<u>FinancialApps LLC</u> v. Envestnet, Inc.** | 2020
  Jurisdiction: Dist. Del.
  Case Number: 19-1337-CFC-CJB (filed July 17, 2019)
  Counsel: Kasowitz Benson Torres LLP
  Nature of Suit: Trade Secret Misappropriation
  Technology: Consumer financial data processing and credit reporting (Golang, Ruby, JavaScript, Java, MongoDB)

- **Aetna Inc, et al v. <u>Mednax Inc.,</u> et al, No. 2:18-cv-02217 (ED Penn.)** | 2020
  Jurisdiction: ED Penn.
  Case Number: 2:18-cv-02217 (filed May 25, 2018)
  Counsel: Robbins, Russell, Englert, Orseck, Untereiner & Sauber LLP Technology: Billing support business logic
  Nature of Suit: Medical Billing Fraud

- **<u>Penrose Hill, Limited et al.</u> v. Mabray** | 2020
  Jurisdiction: N.D. Calif.
  Case Number: 4:20-cv-01169 (filed February 14, 2020)
  Counsel: Seyfarth Shaw LLP
  Nature of Suit: Libel
  Technology: Social media posting forensic acquisition

- **VoterLabs, Inc. v. <u>Ethos Group Consulting Services LLC</u>** | 2020
  Jurisdiction: Dist. Del.
  Case Number: 1:19-cv-00524 (filed March 15, 2019)
  Counsel: Wick Phillips
  Nature of Suit: Breach of Contract
  Technology: Customer profiling and product recommendation (Python, TypeScript, SQL, JavaScript)

- **<u>Robillard</u> v. Opal Labs, Inc.** | 2020
  Jurisdiction: Dist. Oregon
  Case Number: 3:16-cv-00780 (filed May 5, 2016)
  Counsel: Buchanan Angeli Altschul & Sullivan LLP
  Nature of Suit: Trade Secret Misappropriation
  Technology: Investigation of the GitHub and Internet archives using ElasticSearch to search over 800 million records

- **Comcast Cable Communications LLC v. <u>Veveo, Inc.</u>** | 2020
  Jurisdiction: United States Patent and Trademark Office (USPTO) Patent Trial and Appeals Board (PTAB)
  Case Number: IPR 2019-00237, filed November 12, 2018 and IPR 2019-00290 (filed November 12, 2018)
  Counsel: Sterne Kessler Goldstein & Fox
  Nature of Suit: Patent Infringement
  Technology: Cable set top box predictive text entry and product search (C++)

- **<u>Sequoia Technology, LLC</u> v. Dell Inc., et al** | 2019
  Jurisdiction: Dist. Del.
  Case Number: 1:18-cv-01127 (filed July 31, 2018)
  Nature of Suit: Patent Misappropriation
  Technology: RedHat Logical volume management (LVM), Windows Logical Disk Manager (LDM), Windows Storage Spaces, Oracle ZFS, MacOS Apple RAID

- **Alaimo v. <u>Simpson</u>** | 2019
  Jurisdiction: AZ
  Case Number: 2:00-cv-01251 (filed June 29, 2000)
  Nature of Suit: Patent Infringement
  Technology: Forensic acquisition of social media postings from Twitter, Facebook and Instagram

- **<u>Arendi S.A.R.I.</u> v. Motorola Mobility LLC, et. al. (W.D. Wash)** | 2019
  Jurisdiction: Dist. Del.
  Case Number: 1:12-cv-01601-LPS (filed March 10, 2013)
  Nature of Suit: Patent Infringement
  Technology: Mobile phone applications for Android (Java and Kotlin), iOS (Objective C and Swift) and Blackberry (C++); Subversion (SVN) source code version control system

- **In re Intuit Free File Litigation** | 2019
  Jurisdiction: N.D. Calif.
  Case Number: 3:19-cv-02546 (filed May 12, 2019)
  Retained by: Plaintiff
  Nature of Suit: Class Action
  Technology: Multi-site web application (HTML and JavaScript) and robots.txt directives

- **<u>Morris Development, Inc.</u> v. Extreme Impact, Inc.** | 2019
  Jurisdiction: CA
  Case Number: 16CV003781 (filed November 23, 2016)
  Nature of Suit: Copyright and Breach of Contract
  Technology: Comparison of source code and architecture of Microsoft Visual Basic (VB) .Net applications

- **<u>TRUSTID, Inc.</u> v. Next Caller Inc.** | 2019
  Jurisdiction: Dist. Del.
  Case Number: 1:18-cv-00172 (filed January 30, 2018)
  Counsel: Sterne Kessler Goldstein & Fox
  Nature of Suit: Patent Infringement
  Technology: Call-number- spoofing and fraud detection using SIP data processing, call screening and applied machine learning (ML) (Python, VOIP, AWS)

- **<u>Property Solutions International, Inc</u> v. Yardi Systems** | Aug 2019–Sept 2019
  Jurisdiction: District of Utah
  Case Number: 2:15-cv-00102
  Counsel: Morrison & Foerster, LLP
  Nature of Suit: Trade Secret
  Technology: Property, lease and tenant management systems

- **AGIS Software Development LLC v. <u>LG Electronics, Inc.</u>** | 2018
  Jurisdiction: E.D. Tex.
  Case Number: 2:17-cv-00515 (filed June 21, 2017)
  Counsel: Arnold & Porter
  Nature of Suit: Patent Infringement
  Technology: Peer to peer messaging mobile phone applications for Android (Java), iOS (Objective-C), and Windows Phone (C++) and backend server application (C++)

- **Lisa M. Ostella v. <u>Orly Taitz</u>** | 2018
Jurisdiction: C.D. Calif.
Case Number: 8:11-cv-00485 (filed March 29, 2011)
Nature of Suit: Libel
Technology: Forensic acquisition and analysis of blog and Twitter postings, internet archive records and robots.txt directives

- **Certain Road Milling Machines and Components Thereof** | 2018
Jurisdiction: International Trade Commission (ITC)
Case Number: ITC 337-TA-1067 (filed July 10, 2017)
Retained by: Wirtgen America
Counsel: Sterne Kessler Goldstein & Fox
Nature of Suit: Patent Infringement
Technology: Sensor inputs and actuator controls over CAN bus and controller source code (CodeSys, MatLab, C)

- **Golden et al. v. Clear Advantage Marketing, et al.** | 2018
Jurisdiction: S. D. Iowa
Case Number: 4:2016-cv-00529 (filed September 30, 2016)
Retained by: G2 Database Marketing
Nature of Suit: Copyright, Trade Secret
Technology: Functional and presentation layer comparison of financial reporting applications and reporting products

- **"Sasco" Patent Portfolio Review** | 2017
Retained by: Confidential
Counsel: Perkins Coie
Nature of Suit: Pre-litigation assessment
Technology: CPU power management in Linux-based operating systems

- **Securus Technologies, Inc. v. <u>Global Tel*Link Corporation</u>** | 2017
Jurisdiction: N.D. Tex.
Case Number: 3:16-cv-01338 (filed May 13, 2016)
Counsel: Sterne Kessler Goldstein & Fox
Nature of Suit: Patent
Technology: VOIP call processing, monitoring, biometrics, billing (Java, C++)

- **<u>Pennsylvania Department of Labor and Industry</u> (DLI) v. IBM** | 2017
Jurisdiction: PA
Case Number: 2017-cv-1740 (filed March 9, 2017)
Counsel: Duane Morris, LLP
Nature of Suit: Breach of Contract
Technology: IBM solution for Unemployment Compensation Modernization System ("UCMS")
(OS/2, Db2, Java)

- **Pre-litigation Assessment** | 2017
Retained by: Confidential
Counsel: Perkins Coie
Nature of Suit: Copyright
Technology: ARM-based embedded controller and firmware, JTAG

- **Certain Computing or Graphics Systems, Components Thereof, and Vehicles Containing Same** | 2016
  Jurisdiction: International Trade Commission (ITC)
  Case Number: ITC-337-TA-984 (filed December 20, 2015)
  Retained by: Volkswagen America
  Counsel: Sterne Kessler Goldstein & Fox
  Nature of Suit: Patent
  Technology: Northbridge controller, memory controller, DRAM access scheduling and prioritization functions (VHDL)

- **Kemper Corporate Services Inc. v. Computer Sciences Corporation et al.** | 2016
  Jurisdiction: AAA Arbitration
  Counsel: Sidely Austin
  Nature of Suit: Breach of Contract
  Technology: COBOL to Java conversion

- **CAP CO, LTD v. McAfee, Inc** | 2016
  Jurisdiction: N.D. Calif.
  Case Number: 14-cv-05068-JD (filed June 26, 2015)
  Counsel: Perkins Coie
  Nature of Suit: Patent
  Technology: Antivirus and firewall

- **Hoskin Hogan, et al., v. BP West Coast Products LLC, et al.** | 2016
  Jurisdiction: CA
  Case Number: BC460880 ((filed 2011)
  Nature of Suit: Breach of Contract
  Technology: Point of Sale (POS)

- **Pre-litigation Assessment**
  Retained by: Confidential
  Counsel: Perkins Coie
  Nature of Suit: Patent
  Technology: CPU power management, on-chip controller source code for managing the operating frequency, voltage, memory bandwidth, and thermal control of a multithreaded processor and its associated memory

- **Michael Mohr v. Science and Engineering Services, LLC** | 2014
  Jurisdiction: N.D. Al
  Case Number: 5:14-cv-00045 (filed January 9, 2014)
  Nature of Suit: Copyright
  Technology: Source code comparaison, scènes à faire analysais

- **Metropolitan Regional Information Systems, Inc. v. American Home Realty Network, Inc.** | 2014
  Jurisdiction: N.D. Al
  Case Number: 5:14-cv-00045 (filed January 9, 2014)
  Retained by: Science and Engineering Services, LLC
  Counsel: Finnegan, Henderson, Farabow, Garrett & Dunner
  Nature of Suit: Copyright
  Technology: Database compilation and schema in copyright deposits

- **Maryland Health Benefits Exchange Implementation Failure Pre-Litigation Assessment** |
2014
Retained by: State of Maryland
Counsel: Saul Ewing Arnstein & Lehr LLP
Nature of Suit: Breach of Contract, Fraud
Technology: IBM Cúram Enterprise Modules and social program management platform (Java, Db2,
Oracle) and related SDLC artifacts (Jira, Rational Team Concert, SVN)

- <u>**County of Orange**</u> **v. Tata Consultancy Services LTD., et al.** | 2015
Jurisdiction: CA
Case Number: 8:13-cv-00683 (filed April 30, 2013)
Counsel: Theodora Oringher PC
Nature of Suit: Breach of Contract, Fraud
Technology: Property tax management system (Visual Studio .Net, C++, SQL)

- **Robert Nekoroski et al. v. <u>Shajy Mathai et al.</u>** | 2014
Jurisdiction: CA
Case Number: 1184CV04315 (filed November 29, 2011)
Nature of Suit: Trade Secret
Technology: Insurance portfolio risk modeling and assessment

- <u>**The Studer Group**</u> **v. Cleveland Clinic Foundation** | 2013
Jurisdiction: N.D. Ohio
Case Number: 1:10-cv-01957 (filed September 2, 2010)
Nature of Suit: Trade Secret
Technology: Patient engagement, survey and services marketing

- <u>**CGI**</u> **v. eHealth Ontario** | 2014
Jurisdiction: Private Arbitration
Nature of Suit: Breach of Contract
Technology: Diabetes Registry system implementation, HP Quality Center (HPQC)

- **SAP Business One Implementation Failure** | 2014
Jurisdiction: Private Arbitration
Nature of Suit: Breach of Contract
Technology: SAP Business One (ERP Solution)

- **Sam's West, Inc. v. <u>Aloni</u>** | 2013
Jurisdiction: W.D. Ark
Case Number: 5:13-cv-05144 (filed July 15, 2013)
Nature of Suit: Media Licensing
Technology: Internet Archive, image and text scanning, micro-site and platform specific targeting

- <u>**California State Comptroller's Office**</u> **(SCO) v. SAP Public Services** | 2013
Jurisdiction: CA
Case Number: 34-2013-00154918 (filed November 21, 2013)
Counsel: Manatt, Phelps & Phillips, LLP
Nature of Suit: Breach of Contract
Technology: Payroll processing, SAP, HP Quality Center, JIRA

- <u>**BioLumix, Incorporated**</u> **v. Centrus International, Incorporated** | 2013
Jurisdiction: E.D. Mich.
Case Number: 2:08-cv-11418 (filed April 2, 2008)
Nature of Suit: Patent
Technology: Laboratory analytical device firmware

- **<u>Westlake Services LLC</u> d/b/a Westlake Financial Services v. Credit Acceptance Corporation** | 2013
  Jurisdiction: United States Patent and Trademark Office, Patent Trial and Appeals Board
  Case Number: CBM2014-000008 (filed October 11, 2013)
  Counsel: Fish & Tsang, LLP
  Nature of Suit: Patent
  Technology: Auto loan underwriting and processing (FoxPro)

- **Symantec Corporation v. <u>Veeam Software Corporation</u>** | 2013
  Jurisdiction: N.D. Calif.
  Case Number: C 12-00700 SI (filed May. 31, 2012)
  Nature of Suit: Patent
  Technology: VMware ESX and Microsoft Hyper-V

- **Certain Electronic Devices Having A Retractable USB Connector** | 2012
  Jurisdiction: International Trade Commission (ITC)
  Case Number: ITC-337-TA-843 (filed May 24, 2012)
  Retained by: OUII
  Nature of Suit: Patent
  Technology: Digital cameras and related devices with retractable USB connectors

- **Certain Electronic Devices with Communication Capabilities, Components Thereof, and Related Software** | 2012
  Jurisdiction: International Trade Commission (ITC)
  Case Number: ITC-337-TA-808 (filed September 30, 2011)
  Retained by: OUII
  Nature of Suit: Patent
  Technology: Mobile phone touch screens

- **Certain Microprocessors, Components Thereof, and Products Containing the Same** | 2012
  Jurisdiction: International Trade Commission (ITC)
  Case Number: ITC-337-TA-781 (filed July 7, 2011)
  Retained by: OUII
  Nature of Suit: Patent
  Technology: Microprocessor power conditioning hardware

- **Certain Electronic Devices, Including Wireless Communication Devices, Portable Music and Data Processing Devices, and Tablet Computers** | 2012
  Jurisdiction: International Trade Commission (ITC)
  Case Number: ITC-337-TA-794 (filed August 1, 2011)
  Retained by: OUII
  Nature of Suit: Patent
  Technology: LTE stack

- **Certain Computer Forensic Devices and Products Containing the Same** | 2012
  Jurisdiction: International Trade Commission (ITC)
  Case Number: ITC-337-TA-799 (filed August 29, 2011)
  Retained by: OUII
  Nature of Suit: Patent
  Technology: Hard drive recovery and forensics

- **Certain Toner Cartridges and Components Thereof** | 2012
Jurisdiction: International Trade Commission (ITC)
Case Number: ITC-337-TA-829 (filed February 27, 2012)
Retained by: OUII
Nature of Suit: Patent
Technology: Inkjet printer cartridges

- **Honeywell Int'l, Inc. v. United States** | 2012
Jurisdiction: U.S. Ct. Fed. Claims
Case Number: No. 02-1909 (filed December 5, 2012)
Retained by: U.S. Ct. Fed. Claims
Nature of Suit: Patent
Technology: In-helmet cockpit display

- **John Mezzalingua Associates, Inc. v. PCT International, Inc.** | 2010
Jurisdiction: W.D. Texas
Case Number: 5:09-cv-00410 (filed May 22, 2009)
Nature of Suit: Patent
Technology: RF (F-type) coaxial cable connectors

- **Coaxial Cable Connectors and Components Thereof and Products Containing Same** | 2009
Jurisdiction: International Trade Commission (ITC)
Case Number: ITC-337-TA-650 (filed May 30, 2008)
Retained by: John Mezzalingua Associates, Inc.
Nature of Suit: Patent
Technology: RF (F-type) coaxial cable connectors

Other Consulting Assignments

- **Confidential Analysis of Cyber-Security Incident** | Nov 2024
Counsel: Bernstein Litowitz Berger & Grossmann LLP
Nature of Consultation: Pre-Litigation Analysis

- **Pre-litigation Patent Infringement Assessment** | Dec 2023–Present
Technology: mobile gaming, geolocation, user and device verification, jailbreak detection, proxy detection, Bluetooth beacon, ad delivery, biometric authentication.

- **Confidential Investigation** | Oct 2023–Feb 2024
Nature of suit: Illinois Biometric information Privacy Act (BIPA)
Technology: optical fingerprint readers and time clocks, network traffic capture, SQL monitoring.

Admissions

- **State Bar of Virginia** | 2018

- **State Bar of California** | 2013

- **United States Patent and Trademark Office, Registration Number 64493** | May 2009

Employment

Quandary Peak Research
Software Expert Witness | Chicago, IL | Sept 2018–Present

DisputeSoft
Software Expert Witness | Potomac, MD | June 2013–Sept 2018

White House OSTP
Legal Intern | Washington D.C. | Jan–Apr 2013

U.S. D.O.J. Criminal Division, Fraud Section
Legal Intern | Washington D.C. | Sept–Dec 2012

United States ITC, OUII
Law Clerk | Washington D.C. | June–Aug 2012

Judicial Intern to Honorable Susan G. Braden, U.S. Fed. Cl.
Jan–May 2012

Judicial Intern to Honorable Judith N. Macaluso, D.C. Sup. Ct.
Sept–Dec 2011

USPTO, OPLA
Legal Intern | June–Aug 2011

Hiscock & Barclay, LLP
Summer Associate | June–Aug 2010

Marjama, Muldoon, Blasiak & Sullivan, LLP
Patent Agent | June–Aug 2009

Patents

- **Patent Application No. 15/424,102** (abandoned)

Publications

- Pflaum, Isaac, and Emmeline Hateley | June 2014
  A bit of a problem: National and extraterritorial regulation of virtual currency in the age of financial disintermediation | Georgetown Journal of International Law, 45 Geo. J. Int'l L. 1169 (2013-2014)

Education

Master of Law (LLM.) International Business and Economic Law
Georgetown University Law Center, Washington, DC

J.D.
Georgetown University Law Center, Washington, DC

M.S. in Computational Chemistry
Stony Brook University, NY

B.S. in Biology and Chemistry
Stony Brook University, NY

EXHIBIT 2

Exhibit 2 - Publicly Available Material Considered

#	Description	Date	URL
1	U.S. Patent No. 7,046,514 (Data	6/7/2004	
2	U.S. Patent No. 8,655,815 (Neural Processing Unit)	11/24/2011	
3	B4: experience with a globally-deployed software defined wan	8/27/2013	https://dl.acm.org/doi/10.1145/2534169.2486019
4	ONS 2014 Keynote: Amin Vahdat, Google	3/5/2014	https://www.youtube.com/watch?v=n4gOZrUwWmc
5	Enter the Andromeda zone: Google Cloud Platform's latest networking stack	4/2/2015	https://cloud.google.com/blog/products/gcp/enter-andromeda-zone-google-cloud-platforms-latest-
6	Large-Scale Cluster Management at Google with Borg	4/17/2015	https://dl.acm.org/doi/abs/10.1145/2741948.2741964
7	PowerEdge R730and R730xdTechnical Guide	6/1/2015	https://i.dell.com/sites/doccontent/shared-content/data-sheets/en/Documents/Dell-PowerEdge-R730-and-R730xd-
8	A look inside Google's Data Center Networks	6/17/2015	https://cloud.google.com/blog/products/gcp/a-look-inside-googles-data-
9	Jupiter Rising: A Decade of Clos Topologies and Centralized Control in Google's Datacenter Network	8/17/2015	https://dl.acm.org/doi/pdf/10.1145/2829988.2787508
10	The RISC-V Instruction Set Manual, Volume I: UserLevel ISA, Version 2.1	5/31/2016	https://www2.eecs.berkeley.edu/Pubs/TechRpts/2016/EECS-2016-
11	AMD Graphics Core Next Architecture, Generation 3 Reference Guide	8/1/2016	https://www.amd.com/content/dam/amd/en/documents/radeon-tech-docs/instruction-set-
12	U.S. Patent Pub. No. 2017/0103313 (Neural Network Processor)	12/22/2016	
13	RoCE vs. iWARP Competitive Analysis	2/1/2017	https://network.nvidia.com/pdf/whitepapers/WP_RoCE_vs_iWARP.pdf
14	U.S. Patent No. 9,836,691 (Neural Network Instruction Set Architecture)	3/10/2017	
15	In-Datacenter Performance Analysis of a Tensor Processing Unit	6/26/2017	https://arxiv.org/pdf/1704.04760
16	Considerations for Scaling GPU Ready Data Centers	1/1/2018	https://www.nextdimensioninc.com/wp-content/uploads/2018/07/AI-Considerations-For-Scaling-GPU-
17	Computer Architecture: A Quantitative Approach	1/1/2019	https://acs.pub.ro/~cpop/SMPA/Computer%20Architecture,%20Sixth%20Edition_%20A%20Quantitative%20
18	U.S. Patent No. 11,494,692 (Hyperscale Artificial Intelligence and	3/26/2019	
19	Efficient Scheduling of Streams on GPGPUs	2/20/2020	https://link.springer.com/article/10.1007/s11227-020-03209-x
20	Nvidia PARALLEL THREAD EXECUTION ISA Application Gude	8/1/2020	https://docs.nvidia.com/cuda/archive/11.0/pdf/ptx_isa_7.0.pdf

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21	NVIDIA HGX A100 Software User Guide	10/23/2020	https://docs.nvidia.com/datacenter/tesla/hgx-software-guide/index.html
22	Orion: Google's Software-Defined Networking Control Plane	4/12/2021	https://storage.googleapis.com/gweb-research2023-
23	Ten Lessons from Three Generations Shaped Google's TPUv4i	8/4/2021	https://ieeexplore.ieee.org/document/9499913
24	New Intel IPUs and Mount Evans ASIC is its First DPU Sheds x86	8/19/2021	https://www.servethehome.com/new-intel-ipus-and-mount-evans-asic-is-
25	IPU and Mt. Evans - Architecture Day 2021	Intel Technology	8/19/2021	https://www.youtube.com/watch?v=mm-9I1l6bH0
26	User Manual for SuperServer® 220BT-HNTR, 220BT-HNC8R, 220BT-HNC9R	9/3/2021	https://www.supermicro.com/manuals/superserver/2U/MNL-2321.pdf
27	Pathways: Asynchronous Distributed Dataflow for ML	3/23/2022	https://arxiv.org/pdf/2203.12533
28	TCP Congestion Control: A Systems	5/6/2022	https://tcpcc.systemsapproach.org/
29	Intel IPU Plans Revealed for 800Gbps IPUs in 2025	5/10/2022	https://www.servethehome.com/intel-ipu-plans-revealed-for-800gbps-ipus-
30	Intel Unveils Infrastructure Processing Unit Roadmap; 2nd Generation to Ship	5/10/2022	https://download.intel.com/newsroom/2022/corporate/vision/Intel-IPU-
31	New Intel Mount Evans IPU ASIC DPU at Intel Vision 2022	5/12/2022	https://www.servethehome.com/new-intel-mount-evans-ipu-asic-dpu-at-
32	Intel Rolls Out Multi-Generation Infrastructure Processing Unit (IPU) Roadmap at Vision 2022	5/16/2022	https://community.intel.com/t5/Blogs/Products-and-Solutions/FPGA/Intel-Rolls-Out-Multi-Generation-
33	User 's Manual SuperServerSYS-1029U-T Series	5/25/2022	https://www.supermicro.com/manuals/superserver/1U/MNL-1973.pdf
34	Jupiter Evolving: Transforming Google's Datacenter Network via Optical Circuit Switches and Software-	8/22/2022	https://storage.googleapis.com/gweb-research2023-media/pubtools/6752.pdf
35	Mission Apollo: Landing Optical Circuit Switching at Datacenter Scale	8/22/2022	https://arxiv.org/pdf/2208.10041
36	QoS-aware dynamic resource allocation with improved utilization and	10/1/2022	https://www.sciencedirect.com/science/article/abs/pii/S01678191220005
37	Transform Your Business with the Next Generation of Super Computing	10/1/2022	https://biosit.blob.core.windows.net/downloads/a/a/2/aa2f7c07-181c-4939-833d-5c3faaa0b784/white_paper_Superm
38	Intel and Google Cloud jointly launch data center accelerator chip	10/13/2022	https://www.datacenterdynamics.com/en/news/intel-and-google-cloud-jointly-launch-data-center-
39	Concurrent kernel execution and interference analysis on GPUs using deep learning approaches	11/1/2022	https://www.sciencedirect.com/science/article/pii/S1319157822003676?via%3Dihub
40	Dell PowerEdge R750xaTechnical Guide	11/1/2022	https://i.dell.com/sites/csdocuments/product_docs/en/poweredge-r750xa-
41	Efficient RDMA Communication	12/20/2022	https://arxiv.org/pdf/2212.09134

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42	U.S. Patent Pub. No. 2023/0334747 (Systems and Methods for Optimization of Graphic Processing for	12/30/2022	
43	Nvidia PARALLEL THREAD EXECUTION ISA Application Gude	1/1/2023	https://docs.nvidia.com/cuda/archive/12.0.1/pdf/ptx_isa_8.0.pdf
44	Dell PowerEdge R6615Technical Guide	2/1/2023	https://www.delltechnologies.com/asset/es-es/products/servers/technical-support/poweredge-r6615-technical-
45	Google Research, 2022 & beyond: ML & computer systems	2/2/2023	https://research.google/blog/google-research-2022-beyond-ml-computer-
46	Introducing G2 VMs with NVIDIA L4 GPUs - a cloud-industry first	3/21/2023	https://cloud.google.com/blog/products/compute/introducing-g2-vms-
47	Google's Cloud TPU v4 provides exaFLOPS-scale ML with industry-leading efficiency	4/5/2023	https://cloud.google.com/blog/topics/systems/tpu-v4-enables-performance-energy-and-co2e-
48	NVIDIA DGX SuperPOD Data Center DesignReference GuideFeaturing NVIDIA DGX H100 Systems	5/1/2023	https://docs.nvidia.com/nvidia-dgx-superpod-data-center-design-dgx-h100.pdf
49	Announcing A3 supercomputers with NVIDIA H100 GPUs, purpose-built for	5/10/2023	https://cloud.google.com/blog/products/compute/introducing-a3-
50	TPU v4: An Optically Reconfigurable Supercomputer for Machine Learning with Hardware Support for Embeddings	6/17/2023	https://arxiv.org/pdf/2304.01433
51	Dell PowerEdge R7525Technical Guide	7/1/2023	https://www.delltechnologies.com/asset/da-dk/products/servers/technical-support/poweredge-r7525-technical-
52	TCPDirect User Guide	7/5/2023	https://docs.amd.com/api/khub/documents/wZFl_G52K9zsCX9vbVq~IA/
53	"RDNA3" Instruction Set ArchitectureReference Guide	8/15/2023	https://www.amd.com/content/dam/amd/en/documents/radeon-tech-docs/instruction-set-architectures/rdna3-shader-
54	A Machine Learning Supercomputer with an Optically Reconfigurable Interconnect and Embeddings Support	8/27/2023	https://ieeexplore.ieee.org/document/10254691
55	Intel® Architecture Instruction Set Extensions and Future Features	9/1/2023	https://cdrdv2-public.intel.com/790021/architecture-instruction-set-extensions-
56	Running AI and ML workloads with the Cloud HPC Toolkit	11/10/2023	https://cloud.google.com/blog/topics/hpc/cloud-hpc-toolkit-updates-to-
57	Users Manaual SuperServer®SYS-510P-MSYS-510P-MRSYS-510P-MR-	12/1/2023	https://www.supermicro.com/manuals/superserver/1U/MNL-2267.pdf
58	NVIDIA HGX H1008-GPU Server	1/1/2024	https://www.amax.com/content/files/2024/08/ServMax-axg-628SL.pdf

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#	Description	Date	URL
59	QuickSpecs HPE Apollo 6500 Gen10 Plus System Overview HPE Apollo 6500 Gen10 Plus System	6/3/2024	https://www.hpe.com/psnow/doc/a50002545enw
60	"AMD Instinct MI300" Instruction Set		https://www.amd.com/content/dam/amd/en/documents/instinct-tech-docs/instruction-set-architectures/amd-instinct-mi300-
61	Mount Evans IPU		https://ipdk.io/documentation/Targets/MountEvansIPU/
62	TPU v4 Guide		https://cloud.google.com/tpu/docs/v
63	TPU v5e Guide		https://cloud.google.com/tpu/docs/v
64	TPU v5p Guide		https://cloud.google.com/tpu/docs/v
65	TPU v6e Guide		https://cloud.google.com/tpu/docs/v
66	Introduction to Cloud TPUs		https://cloud.google.com/tpu/docs/in
67	TPU Architecture		https://cloud.google.com/tpu/docs/system-architecture-tpu-vm
68	Megascale Stats Tool		https://openxla.org/xprof/megascale
69	OpenXLA		https://openxla.org/
70	Open Compute Project		https://www.opencompute.org/
71	Multiple Network Interfaces		https://cloud.google.com/vpc/docs/multiple-interfaces-concepts
72	The Fundamentals of RDMA Programming		https://academy.nvidia.com/en/course/rdma-programming-
73	RDMA Aware Networks Programming User Manual		https://docs.nvidia.com/rdma-aware-networks-programming-user-manual-
74	Introduction to InfiniBand		https://network.nvidia.com/pdf/whitepapers/IB_Intro_WP_190.pdf
75	InfiniBand Architecture Specification		https://www.infinibandta.org/ibta-
76	NVIDIA MLNX_OFED Documentation v23.07-.0.5.1.2		https://docs.nvidia.com/networking/display/nvidia-mlnx-ofed-
77	Design and Implementation of the iWarp Protocol in Software		https://www.osc.edu/files/research/network_file/projects/iwarp/papers/dal
78	Machine Learning for Systems and Systems for Machine Learning		http://learningsys.org/nips17/assets/slides/dean-nips17.pdf
79	Open XLA project description and source code repository		https://openxla.org/xla https://github.com/openxla/xla
80	Data Centers		https://datacenters.google/